

The 5E Model of Instruction



5E Definition	Teacher Behavior	Student Behavior
Engage		
<ul style="list-style-type: none"> • Generate interest • Access prior knowledge • Connect to past knowledge • Set parameters of the focus • Frame the idea 	<ul style="list-style-type: none"> • Motivates • Creates interest • Taps into what students know or think about the topic • Raises questions and encourages responses 	<ul style="list-style-type: none"> • Attentive in listening • Ask questions • Demonstrates interest in the lesson • Responds to questions demonstrating their own entry point of understanding
Explore		
<ul style="list-style-type: none"> • Experience key concepts • Discover new skills • Probe, inquire, and question experiences • Examine their thinking • Establish relationships and understanding 	<ul style="list-style-type: none"> • Acts as a facilitator • Observes and listens to students as they interact • Asks good inquiry-oriented questions • Provides time for students to think and to reflect • Encourages cooperative learning 	<ul style="list-style-type: none"> • Conducts activities, predicts, and forms hypotheses or makes generalizations • Becomes a good listener • Shares ideas and suspends judgment • Records observations and/or generalizations • Discusses tentative alternatives
Explain		
<ul style="list-style-type: none"> • Connect prior knowledge and background to new discoveries • Communicate new understandings • Connect informal language to formal language 	<ul style="list-style-type: none"> • Encourages students to explain their observations and findings in their own words • Provides definitions, new words, and explanations • Listens and builds upon discussion from students • Asks for clarification and justification • Accepts all reasonable responses 	<ul style="list-style-type: none"> • Explains, listens, defines, and questions • Uses previous observations and findings • Provides reasonable responses to questions • Interacts in a positive, supportive manner
Extend/Elaborate		
<ul style="list-style-type: none"> • Apply new learning to a new or similar situation • Extend and explain concept being explored • Communicate new understanding with formal language 	<ul style="list-style-type: none"> • Uses previously learned information as a vehicle to enhance additional learning • Encourages students to apply or extend the new concepts and skills • Encourages students to use terms and definitions previously acquired 	<ul style="list-style-type: none"> • Applies new terms and definitions • Uses previous information to probe, ask questions, and make reasonable judgments • Provides reasonable conclusions and solutions • Records observations, explanations, and solutions
Evaluate		
<ul style="list-style-type: none"> • Assess understanding (Self, peer and teacher evaluation) • Demonstrate understanding of new concept by observation or open-ended response • Apply within problem situation • Show evidence of accomplishment 	<ul style="list-style-type: none"> • Observes student behaviors as they explore and apply new concepts and skills • Assesses students' knowledge and skills • Encourages students to assess their own learning • Asks open-ended questions 	<ul style="list-style-type: none"> • Demonstrates an understanding or knowledge of concepts and skills • Evaluates his/her own progress • Answers open-ended questions • Provides reasonable responses and explanations to events or phenomena

First Semester	Second Semester
1st Six Weeks	4th Six Weeks
Unit 01: Matter (12 days) 4A B C; 5A Unit 02: Energy Transformations (12 days) 5 A C Process TEKS as applicable to instruction.	Unit 07: Chemical Equations and Reactions (12 days) 11 C; 15 A B Unit 08: Stoichiometry (12 days) Process TEKS as applicable to instruction.
2nd Six Weeks	5th Six Weeks
Unit 03: Atomic Structure (12 days) 4 D; 6 A B C Unit 04: Chemical Bonding (12 days) 4 D; 8 A B C D Process TEKS as applicable to instruction.	Unit 09: Solubility (12 days) 12 A B C Unit 10: Solutions (12 days) 13 A B C Process TEKS as applicable to instruction.
3rd Six Weeks	6th Six Weeks
Unit 05: Chemical Formulas (12 days) 11 A B Unit 06: Mole Theory (12 days) Process TEKS as applicable to instruction.	Unit 11: Acids and Bases (12 days) 14 A B C D Unit 12: Gases (4 days) 7 A B Unit 13: Nuclear Chemistry (4 days) 9 A B C D Unit 14: Oxidation/Reduction (4 days) 10 A B Process TEKS as applicable to instruction.

Vertical Alignment Document

Mathematics

Third, Fourth, Fifth



Mathematics Chapter 111 TEKS 3-5 Introduction

THIRD GRADE 111.14	FOURTH GRADE 111.15	FIFTH GRADE 111.16
(1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 3 are multiplying and dividing whole numbers, connecting fraction symbols to fractional quantities, and standardizing language and procedures in geometry and measurement.	(1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 4 are comparing and ordering fractions and decimals, applying multiplication and division, and developing ideas related to congruence and symmetry.	(1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 5 are comparing and contrasting lengths, areas, and volumes of two- or three- dimensional geometric figures; representing and interpreting data in graphs, charts, and tables; and applying whole number operations in a variety of contexts.
(2) Throughout mathematics in Grades 3-5, students build a foundation of basic understandings in number, operation, and quantitative reasoning; patterns, relationships, and algebraic thinking; geometry and spatial reasoning; measurement; and probability and statistics. Students use algorithms for addition, subtraction, multiplication, and division as generalizations connected to concrete experiences; and they concretely develop basic concepts of fractions and decimals. Students use appropriate language and organizational structures such as tables and charts to represent and communicate relationships, make predictions, and solve problems. Students select and use formal language to describe their reasoning as they identify, compare, and classify two- or three-dimensional geometric figures; and they use numbers, standard units, and measurement tools to describe and compare objects, make estimates, and solve application problems. Students organize data, choose an appropriate method to display the data, and interpret the data to make decisions and predictions and solve problems.		
(3) Throughout mathematics in Grades 3-5, students develop numerical fluency with conceptual understanding and computational accuracy. Students in Grades 3-5 use knowledge of the base-ten place value system to compose and decompose numbers in order to solve problems requiring precision, estimation, and reasonableness. By the end of Grade 5, students know basic addition, subtraction, multiplication, and division facts and are using them to work flexibly, efficiently and accurately with numbers during addition, subtraction, multiplication, and division computation.		
(4) <i>Problem solving, language and communication, connections within and outside mathematics, and formal and informal reasoning underlie all content areas in mathematics. Throughout mathematics in Grades 3-5 students use these processes together with technology and other mathematical tools such as manipulative materials to develop conceptual understanding and solve meaningful problems as they do mathematics.</i>		

THIRD		FOURTH		FIFTH	
3.1	<i>Number, operation, and quantitative reasoning. The student uses place value to communicate about increasingly large whole numbers in verbal and written form, including money.</i>	4.1	<i>Number, operation, and quantitative reasoning. The student uses place value to represent whole numbers and decimals.</i>	5.1	<i>Number, operation, and quantitative reasoning. The student uses place value to represent whole numbers and decimals.</i>
3.1A	<p>Use place value to read, write (in symbols and words), and describe the value of whole numbers through 999,999.</p> <p>Use, Read, Write, Describe</p> <p>PLACE VALUE WITH WHOLE NUMBERS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> •whole numbers (0 – 999,999) •number system using ten digits (symbols used to represent numbers) 0-9 •place value system is based on multiples of ten <ul style="list-style-type: none"> •ex: zero tens, one ten, ten tens, hundred tens •ex: 4,067 •(4 thousands, 0 hundreds, 6 tens, 7 ones) $(4 \times 1,000) + (0 \times 100) + (6 \times 10) + (7 \times 1)$ •number in standard form that has been separated into groups of three digits using commas with each of these groups called a period 	4.1A	<p>Use place value to read, write, compare, and order whole numbers through the 999,999,999 place.</p> <p>Use, Read, Write, Compare, Order</p> <p>PLACE VALUE WITH WHOLE NUMBERS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> •whole numbers (0 – 999,999,999) with numbers and words •number system using ten digits (symbols used to represent numbers) 0-9 •place value system is based on multiples of ten <ul style="list-style-type: none"> •ex: $798,531,465 = (7 \times 100,000,000) + (9 \times 10,000,000) + (8 \times 1,000,000) + (5 \times 100,000) + (3 \times 10,000) + (1 \times 1,000) + (4 \times 100) + (6 \times 10) + (5 \times 1)$ •number in standard form that has been separated into groups of three digits using commas with each of these groups called a period 	5.1A	<p>Use place value to read, write, compare, and order whole numbers through the 999,999,999,999.</p> <p>Use, Read, Write, Compare, Order</p> <p>PLACE VALUE WITH WHOLE NUMBERS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> •whole numbers (0 – 999,999,999,999) with numbers and words •number system using ten digits (symbols used to represent numbers) 0-9 •standard to written and written to standard •place value system is based on multiples of ten <ul style="list-style-type: none"> •ex: $790,410,032,465 = (7 \times 100,000,000,000) + (9 \times 10,000,000,000) + (0 \times 1,000,000,000) + (4 \times 100,000,000) + (1 \times 10,000,000) + (0 \times 1,000,000) + (0 \times 100,000) + (3 \times 10,000) + (2 \times 1,000) + (4 \times 100) + (6 \times 10) + (5 \times 1)$

TEXT— TEKS: ***Knowledge Statement (TEA)***; Bolded Black – **Student Expectations (TEA)**; Blue – Supporting Information Clarifications from C-SCOPE

CELL SHADING – Yellow: Student Expectations that are tested at current and/or other grade levels

THIRD		FOURTH		FIFTH	
	<ul style="list-style-type: none"> •difference between a digit and a number <ul style="list-style-type: none"> •ex: 345, the digit in the tens place is 4, the number is 345 •standard form to written notation, written to standard •standard form to expanded form <ul style="list-style-type: none"> •ex. $7,094 = 7,000 + 0 + 90 + 4$ •every digit has a place and a specific value <ul style="list-style-type: none"> •ex. 31, 465 - the digit 4 is in the hundreds place, which represents 4 hundreds and the value is 400 <p>Note: 2nd grade uses place value to read, write and describe the value of the whole numbers to 999 only</p> <ul style="list-style-type: none"> •3rd grade introduces how to convert between a number and expanded notation •3rd grade introduces the thousands period 		<ul style="list-style-type: none"> •ex: 798,531,465 is read and written in words as seven hundred ninety-eight million, five hundred thirty-one thousand, four hundred sixty-five •standard to written and written to standard •standard form to expanded notation <ul style="list-style-type: none"> •ex. $798,531,465 = 700,000,000 + 90,000,000 + 8,000,000 + 500,000 + 30,000 + 1,000 + 400 + 60 + 5$ •every digit has a place and a specific value <ul style="list-style-type: none"> •ex. 798,531, 465 - the digit 8 is in the one millions place, which represents 8 million and the value is 8,000,000 •symbols and words for “greater than” (>), “less than” (<) and “equal to” (=) <p>Note: 4th grade introduces the millions period</p>		<ul style="list-style-type: none"> •number in standard form that has been separated into groups of three digits using commas with each of these groups called a period <ul style="list-style-type: none"> •ex: 52,798,531,465 is read and written in words as fifty-two billion, seven hundred ninety-eight million, five hundred thirty-one thousand, four hundred sixty-five •standard to written and written to standard •standard form to expanded notation <ul style="list-style-type: none"> •ex. $790,410,032,465 = 700,000,000,000 + 90,000,000,000 + 400,000,000 + 30,000 + 2,000 + 400 + 60 + 5$ •every digit has a place and a specific value <ul style="list-style-type: none"> •ex. 97,465,831,465 - the digit 7 is in the billions place, which represents 7 billion and the value is 7,000,000,000 •symbols and words for “greater than” (>), “less than” (<) and “equal to” (=) <p>Note: 5th grade introduces the billions period</p>
	<p>Use place value to compare and order whole numbers through 9,999.</p> <p>Use, Compare, Order</p> <p>PLACE VALUE WITH WHOLE NUMBERS</p>		<p>Use place value to read, write, compare, and order decimals involving tenths and hundredths, including money, using concrete models.</p> <p>Use, Read, Write, Compare, Order</p>		<p>Use place value to read, write, compare, and order decimals through the thousandths place.</p> <p>Use, Read, Write, Compare, Order</p> <p>PLACE VALUE WITH DECIMALS</p>

TEXT— TEKS: **Bolded Black and Italics Knowledge Statement (TEA)**; Bolded Black – **Student Expectations (TEA)**; Blue – Supporting Information Clarifications from C-SCOPE

CELL SHADING — Yellow: Student Expectations that are tested at current and/or other grade levels

THIRD	FOURTH	FIFTH
<p>Including, but not limited to:</p> <ul style="list-style-type: none"> •descending, ascending, and no order •symbols and words greater than ($>$), less than ($<$), and equal to ($=$) •place and value <ul style="list-style-type: none"> •ex. 31, 465 - the four is in the hundreds place and the value is 400 •whole numbers include zero and all of the positive counting numbers (0 – 9,999) •numbers by determining how they are alike and how they are different <ul style="list-style-type: none"> •ex: 23 and 32 have the same digits but are not equal in value (different place values: 23 is 2 tens and 3 ones and 32 is 3 tens and 2 ones) $23 < 32$ and $32 > 23$) <p>Note: 2nd grade introduces the use of comparative symbols ($<$, $=$, $>$)</p>	<p>PLACE VALUE WITH DECIMALS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> •decimals involving hundredths <ul style="list-style-type: none"> •money •concrete objects •pictorial models •word “and” indicates a decimal in a number •number 2.78 <ul style="list-style-type: none"> •place and value - the digit 8 is in the hundredths place and the value is .08 or 8 hundredths •written and read – two and seventy-eight hundredths •decimal numbers using symbols and words •symbols and words for “greater than” ($>$), “less than” ($<$) and “equal to” ($=$) <p>Note:</p> <ul style="list-style-type: none"> •4th grade decimals with concrete models only is a new concept (3rd introduces decimals with the use of money) •4th grade decimals (through hundredths) 	<p>Including, but not limited to:</p> <ul style="list-style-type: none"> •decimals involving thousandths •word “and” indicates a decimal in a number •number 2.745 <ul style="list-style-type: none"> •place and value - the digit 5 is in the thousandths place and the value is .005 or 5 thousandths •written and read – two and seven hundred forty-five thousandths •symbols and words for “greater than” ($>$), “less than” ($<$) and “equal to” ($=$) <p>Note:</p> <ul style="list-style-type: none"> •5th grade decimals (through thousandths) •4th grade uses concrete objects and money to introduce decimals

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CELL SHADING — Yellow: Student Expectations that are tested at current and/or other grade levels

THIRD		FOURTH		FIFTH	
3.2	<i>Number, operation, and quantitative reasoning. The student uses fraction names and symbols (with denominators of 12 or less) to describe fractional parts of whole objects or sets of objects.</i>	4.2	<i>Number, operation, and quantitative reasoning. The student describes and compares fractional parts of whole objects or sets of objects.</i>	5.2	<i>Number, operation, and quantitative reasoning. The student uses fractions in problem-solving situations.</i>
3.2A	<p>Construct concrete models of fractions.</p> <p>Use, Describe, Construct</p> <p>FRACTION MODELS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> the relationship of the fractional parts to distinguish between the numerator and denominator (denominator tells the total number of equal parts in a whole or set; the numerator tells the number of parts shaded or specified in a given problem) fractions as equal size parts of a whole or by a set of objects whole object models <ul style="list-style-type: none"> one ex: pattern block <ul style="list-style-type: none"> if hexagon = 1 whole, then one trapezoid = $\frac{1}{2}$ if hexagon = 1 whole, then one rhombus = $\frac{1}{3}$ if hexagon = 1 whole, then triangle = $\frac{1}{6}$ if trapezoid = 1 whole, then hexagon = 2 if trapezoid = 1 whole, then rhombus = $\frac{3}{2}$ or $1\frac{1}{2}$ (do not teach generating from one form to another – see note) if trapezoid = 1 whole, then triangle = $\frac{1}{2}$, etc. 				

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CELL SHADING — Yellow: Student Expectations that are tested at current and/or other grade levels

THIRD		FOURTH		FIFTH	
	<ul style="list-style-type: none"> •set of objects <ul style="list-style-type: none"> •one ex: 4 green bears and 3 red bears <ul style="list-style-type: none"> •4 out of 7 bears are green or $\frac{4}{7}$ •3 out of 7 bears are red or $\frac{3}{7}$ •denominators of 12 or less <p>Note:</p> <ul style="list-style-type: none"> •2nd grade describes fractions as one “out of” two •3rd grade is the first time to construct fraction models •3rd grade is the first time to use fraction symbols •3rd grade describes fraction from model. 3rd grade does not generate from mixed to improper (5th grade) – see last example under whole objects 				
3.2B	<p><i>Compare fractional parts of whole objects or sets of objects in a problem situation using concrete models.</i></p> <p>Use, Describe, Compare</p> <p>FRACTIONAL PARTS OF WHOLE AND SET</p>	4.2C	<p><i>Compare and order fractions using concrete and pictorial models.</i></p> <p>Describe, Compare, Order</p> <p>FRACTIONS</p>	5.2C	<p><i>Compare two fractional quantities in problem-solving situations using a variety of methods, including common denominators.</i></p> <p>Use, Compare</p> <p>FRACTIONS</p>

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CELL SHADING — Yellow: Student Expectations that are tested at current and/or other grade levels

THIRD	FOURTH	FIFTH
<p>Including, but not limited to:</p> <ul style="list-style-type: none"> •fractional parts of whole objects (parts of whole do not have to be adjacent to each other) using concrete objects (record pictorially) •fractional parts of sets of objects in a problem situations using concrete models (record pictorially) •fractional parts using comparison terminology <ul style="list-style-type: none"> •less than one whole or less than or (<) •equal to one whole, equal to or (=) •greater than one whole, greater than or (>) •denominator size (the smaller the number, the larger the part size or the larger the number, the smaller the part size) <p>Note:</p> <ul style="list-style-type: none"> •3rd grade constructs concrete models of equivalent fractions (see 3.2D) 	<p>Including, but not limited to:</p> <ul style="list-style-type: none"> •fractions using <ul style="list-style-type: none"> •concrete objects •pictorial models •fractional parts using comparison terminology <ul style="list-style-type: none"> •less than one whole or less than or (<) •equal to one whole, equal to or (=) •greater than one whole, greater than or (>) •denominator size (the smaller the number, the larger the part size or the larger the number, the smaller the part size) <p>Note:</p> <ul style="list-style-type: none"> •3rd grade constructs concrete models of equivalent fraction (see 3.2D) •4th grade transfers from concrete to pictorial (recognizing fractions in equivalent or simplest form) 	<p>Including, but not limited to:</p> <ul style="list-style-type: none"> •fractional quantities using a variety of methods <ul style="list-style-type: none"> •concrete to pictorial and vice versa •concrete to numerical and vice versa •pictorial to numerical and vice versa •fractional parts using comparison terminology <ul style="list-style-type: none"> •less than one whole or less than or (<) •equal to one whole, equal to or (=) •greater than one whole, greater than or (>) •fractions using common denominators •denominator size (the smaller the number, the larger the part size or the larger the number, the smaller the part size) <p>Note:</p> <ul style="list-style-type: none"> •4th grade transfers from concrete to pictorial to abstract (recognizing fractions in equivalent or simplest form)

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UNIT: 01

UNIT: Finding Identity through Literature

DURATION: 25 days

CONCEPTUAL LENS: Change/Independence

RATIONALE:

In this unit students read narrative in the first person, based around the literary theme of finding identity. They write using the writing process in a personal narrative on the same literary theme. Students connect to the theme using their own background experiences. Supporting reading skills focus on understanding the text structures of story plots and character changes across the plot. Supporting writing skills instruction focuses on transitions paragraph to paragraph.

PERFORMANCE INDICATORS	CONCEPTS	KEY UNDERSTANDINGS
Read a short story. Complete a story plot map. Describe in your own words how the main character responds to conflicts or challenges. Write a conclusion about how the character changes in order to resolve these issues. (7.11A, 7.13C)	Characters Story plot Change Conflict Challenge	Characters change across a story plot in order to resolve conflicts and challenges.
Write a composition about a time you were challenged to do something you thought you could not do. Be sure to include how the resolution changed you and made you stronger. Demonstrate applications of criteria set on a rubric. (7.12F)	Author's purpose Genre	Author's purpose determines genre.

UNIT: 01	UNIT: Finding Identity through Literature	DURATION: 25 days
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TEKS# SE#	TEKS	SPECIFICITY
7.11	<i>Reading/literary response. The student expresses and supports responses to various types of texts.</i>	
7.11A	Offer observations, make connections, react, speculate, interpret, and raise questions in response to texts (4-8).	Note: Social Studies, Science and Math should lead with VERBS <ul style="list-style-type: none"> analyze and draw conclusions about <ul style="list-style-type: none"> characters/motivations characters/traits characters/changes they undergo interpret literary language
7.12	<i>Reading/text structures/literary concepts. The student analyzes characteristics of various types of texts (genres).</i>	
7.12F	Analyze characters, including their traits, motivations, conflicts, points of view, relationships, and changes they undergo (4-8);	<ul style="list-style-type: none"> Conflicts: How they are addressed and resolved <ul style="list-style-type: none"> Everybody wins Flight/run away/avoid Fight /resist Death Compromise Someone wins; someone loses Acceptance Unresolved..... Change <ul style="list-style-type: none"> Intellectual Emotional Physical Change From beginning to end <p><i>When reading, students should engage in meta-cognitive discussions with peers to clarify thinking.</i></p>



Delivering a Guaranteed, Viable Curriculum

Components, Descriptions, and Uses for Educators in the CSCOPE Curriculum System

Component	Description	District/System Curriculum Leaders	Campus Curriculum Leaders	Teachers
Vertical Alignment Documents	Vertical Alignment Documents present aligned standards among grade levels. The standards used include the TEKS knowledge and skill statement and student expectations. Because the TEKS provide a framework, there is a need to add specificity and clarity. CSCOPE ensures that each standard includes specificity for each student expectation so instruction and standards are truly aligned between grade levels.	District leaders use the vertical alignment documents to: <ul style="list-style-type: none"> • Ensure instructional focus is maintained on specified learning standards at each grade level. • Evaluate instructional resources against specified grade level standards • Develop district benchmark exams and other assessment tools 	Campus leaders use the vertical alignment documents to: <ul style="list-style-type: none"> • Monitor instruction by ensuring that the specified content is actually being taught at the correct time • Give new to profession and new to grade level teachers a deeper understanding of what is to be taught • Lead conversations about how the curriculum standards are integrated and supported. • Ensure that the level of rigor presented in the standard is being implemented 	Teachers use the vertical alignment documents to: <ul style="list-style-type: none"> • Gain clarity regarding their accountability for student learning in the grade/course • Track vertically the depth and complexity of a standard through grade levels • Choose instructional resources and materials that are aligned with the specified standards
Instructional Focus Documents	Instructional Focus Documents are used to group the specified standards from the Vertical Alignment Documents into a logical sequence for instruction. The standards should not be taught in isolation and there are logical ways to bundle them to maximize student learning. These documents present which standards are directly taught in each six weeks period of instruction and include the performance indicators to ensure that the standards are attained at the level of rigor. A rationale is provided to explain	District leaders use the Instructional Focus Documents to: <ul style="list-style-type: none"> • Ensure that all tested standards are taught prior to the state assessment • Ensure adequacy of shared resources to implement the curriculum • Develop performance indicators that measure the bundled standards through an authentic assessment dimension providing evidence of application and higher order thinking 	Campus leaders use the Instructional Focus Documents to: <ul style="list-style-type: none"> • Lead conversations about the standards taught in each six week period and how they will be evaluated through the performance indicators • Support teacher development in the integration of the standards into a complementary system of instruction • Monitor high quality instruction • Benchmark student progress 	Teachers use the Instructional Focus Documents to: <ul style="list-style-type: none"> • Develop a depth of understanding of how the performance indicators will measure student learning of the bundled standards • Determine exactly what is to be taught in each six weeks • Maintain focus of standards and performance indicators BEFORE planning instruction.

Component	Description	District/System Curriculum Leaders	Campus Curriculum Leaders	Teachers
	why the standards are bundled in the specified groupings			
Units of Study	<p>The Units of Study expand the Instructional Focus Documents into a more robust resource to support high quality instructional planning and delivery. The Units of Study integrate the bundled standards and performance indicators with:</p> <ul style="list-style-type: none"> • Concepts and Key Understandings which serve as the foundation for quality instruction • Guiding questions to ensure students are acquiring the concepts introduced to support critical thinking • Links to standards from other grade levels which will be incorporated into instruction and are assessed on the state assessment • Instructional plan of sequenced exemplar lessons to fulfill the performance indicators • Connection to state resources and materials • Connection to district and textbook resources • Links to the professional development Webcast on each unit to ensure that the content is discussed • Vocabulary for the unit • Link to the unit assessment 	<p>District leaders use the Units of Study to:</p> <ul style="list-style-type: none"> • Add district developed resources to the system for district customization • Ensure that adequate resources are allocated for the implementation of each unit of study. • Hold school leaders accountable for implementation of the curriculum • Identify misconceptions in a prerequisite grade that impact student learning and performance in subsequent grades resulting in an achievement gap. This component alerts those using the system to these issues. 	<p>Campus leaders use the Units of Study to:</p> <ul style="list-style-type: none"> • Lead conversations about the standards taught in each six week period and how they will be evaluated • Focus on the rationale and misconceptions to ensure that early learning is complete and accurate. • Review the concepts, key understandings, and guiding questions for the instructional unit in order to monitor instructional delivery • Begin conversations regarding the performance indicators and Unit Assessments to ensure the alignment of quality instruction to assessment • Evaluate teacher weekly lesson plans • Identify misconceptions in a prerequisite grade that impact student learning and performance in subsequent grades resulting in an achievement gap. This component alerts those using the system to these issues 	<p>Teachers use the Units of Study to:</p> <ul style="list-style-type: none"> • Plan high quality instruction • Use a common assessment to evaluate student performance • Access exemplar lessons, state resources and district resources to ensure the highest level of instruction • Incorporate vocabulary into instruction as it is defined in the unit • Identify misconceptions in a prerequisite grade that impact student learning and performance in subsequent grades resulting in an achievement gap. • Monitor teaching and ensure avoidance of the common misconceptions.

Component	Description	District/System Curriculum Leaders	Campus Curriculum Leaders	Teachers
Lessons	The lessons provide a comprehensive resource of exemplar instructional activities. Based on the 5E model, the lessons are designed to ensure that students meet the performance indicators determined for the specified standards. The system is comprehensive and the lessons can be used without any other resources are integrated with state and district resources, textbooks, and other resources.	District leaders use the lessons to: <ul style="list-style-type: none"> • Ensure that all schools have access to high quality exemplars for instructional • Align district resources to exemplar lessons • Align textbooks to lessons 	Campus leaders use the lessons to: <ul style="list-style-type: none"> • Provide all teachers with a resource for instruction • Ensure that instruction is rigorous and relevant • Customize the lessons to unique campus initiatives and resources • Provide mentors a tool to use with new to professional teachers 	Teachers use the lessons to: <ul style="list-style-type: none"> • Plan high quality instruction • Ensure that instruction, assessment, and curriculum standards are fully aligned • Engage students in an active learning process • Springboard into other teacher developed/selected lessons inspired by the exemplars
Weekly Lesson Planner	CSCOPE provides the ability to construct online weekly lesson plans from the Units of Study. Teachers can edit/add to the unit instructional plan thereby customizing the weekly lesson plan to meet the needs of their students. The lesson planner provides for customization of individual teacher needs, provides the means for administrators to know that the curriculum is being implemented and assessed, and sharing of lesson plans inside the district electronically.	District leaders use the weekly lesson planner to: <ul style="list-style-type: none"> • Monitor the level of implementation of the system • Frequency of access and use of the instructional units of study 	Campus leaders use the weekly lesson planner to: <ul style="list-style-type: none"> • Monitor the level of implementation of the system • Frequency of access and use of the instructional units of study • Create opportunities for planning and reviewing the natural progression of teaching and learning • Monitor the fidelity of instructional delivery in relationship to the rigor demanded by the bundled standards • Assist new and/or displaced teachers with instructional planning 	Teachers use the weekly lesson planner to: <ul style="list-style-type: none"> • Plan instruction and assessment in alignment to the Units of Study • Ensure their instructional delivery results in the fulfillment of the performance indicators assessing the bundled standards

Component	Description	District/System Curriculum Leaders	Campus Curriculum Leaders	Teachers
Year at a Glance	The Year at a Glance is designed to present a quick snapshot of the entire year's instructional plan.	District leaders use the Year at a Glance to: <ul style="list-style-type: none"> Outline the scope and sequence of instruction for the entire year Develop monitoring tools with campus leaders to ensure the implementation of the curriculum Align district timelines to units of study to ensure congruence 	Campus leaders use the Year at a Glance to: <ul style="list-style-type: none"> Monitor instructional pacing by grade levels and departments Communicate with parents about the scope and sequence of the curriculum Plan regularly with teachers to ensure proper pacing. Ensure availability of resources 	Teachers use the Year at a Glance to: <ul style="list-style-type: none"> Plan high quality instruction Scope out the year in a single snapshot Work with peers to share and allocate instructional resources Monitor their own pacing
TEKS Verification Matrix	The TEKS Verification Matrix ensures that the entire state curriculum is fully covered in the CSCOPE curriculum system. Off grade level TEKS are also included to ensure success on state assessments that cover off level standards.	District leaders use the TEKS Verification Matrix to: <ul style="list-style-type: none"> Ensure all of the state curriculum is included in the CSCOPE curriculum system Provide documentation for value added components of CSCOPE, state, and district resources 	Campus leaders use the TEKS Verification Matrix to: <ul style="list-style-type: none"> Ensure alignment with state standards and state assessment systems 	Teachers use the TEKS Verification Matrix to: <ul style="list-style-type: none"> Verify the depth and breadth of the CSCOPE curriculum system
Unit Tests	Unit tests are developed for each unit of study based on the performance indicators from the Instructional Focus Document. These assessments include a variety of assessment items including ones which are written in the format of the state assessment.	District leaders use the unit tests to: <ul style="list-style-type: none"> Benchmark student progress Provide support to campus leaders for teachers whose classes are struggling 	Campus leaders use the unit tests to: <ul style="list-style-type: none"> Ensure that all students are held to the same rigorous standards Benchmark student performance against established benchmarks Target individual students or teachers who need additional support 	Teachers use the unit tests to: <ul style="list-style-type: none"> Measure student attainment of the specified standards at the level of rigor required for success on state assessments. Target individual students needing accelerated instruction

Component	Description	District/System Curriculum Leaders	Campus Curriculum Leaders	Teachers
			<ul style="list-style-type: none"> Predict performance on state assessments Ensure students with disabilities have access to rigorous assessments 	
Statewide professional development activities	Each six weeks, there will be statewide professional development activities presented through the videoconferencing network and designed to help all participating districts understand the scope of instruction for the upcoming instructional period. These sessions will also be Webcast for review by those not able to attend the conference or for some other instructional reason. These professional development activities are designed to broaden understanding on the Instructional Focus Document and Units of Study	District leaders use the statewide professional development activities to: <ul style="list-style-type: none"> Provide job-embedded professional development Maintain curriculum conversations among campus leaders 	Campus leaders use the statewide professional development activities to: <ul style="list-style-type: none"> Provide regular job-embedded professional development for staff who are implementing the CSCOPE system Ensure that all participants have the opportunity to hear from a curriculum expert 	Teachers use the statewide professional development activities to: <ul style="list-style-type: none"> Develop depth of understanding of the standards, the rationale for teaching them together, the common errors in learning for each unit of study. Understand the lessons and units

Lesson Framework

Mathematics

Fourth Grade





Place Value – Whole Numbers

TEKS:

4.1 *Number, operation, and quantitative reasoning. The student uses place value to represent whole numbers and decimals.*

4.1A Use place value to read, write, compare, and order whole numbers through 999,999,999.

Process TEKS

4.15 *Underlying processes and mathematical tools. The student communicates about Grade 4 mathematics using informal language.*

4.15A Explain and record observations using objects, words, pictures, numbers, and technology.

4.15B Relate informal language to mathematical language and symbols.

4.16 *Underlying processes and mathematical tools. The student uses logical reasoning to make sense of his or her world.*

4.16A Make generalizations from patterns or sets of examples and non-examples.

GETTING READY FOR INSTRUCTION:

Performance Indicator(s):

- Using any data set of whole numbers through the hundred millions, demonstrate how to read, write (in standard form and expanded notation), compare and order numbers with a solution strategy explanation. (4.1A)

Key Understandings and Guiding Questions:

- Whole numbers can be read, written, compared, and ordered using place value.
 - What is place value?
 - What is a period? million? thousand? hundred? unit?
 - How can you use base ten blocks to read, write, compare and order whole numbers?
 - How can you use a place value chart to read, write, compare and order whole numbers?

Vocabulary of Instruction:

- Place value
- Whole number
- Period
- Millions
- Thousands
- Hundreds
- Tens
- Ones
- Standard form
- Expanded form
- Digit
- Greater than
- Less than
- Equal to

Materials/Resources:

- Base ten blocks
- Decahedra dice
- *If You Made a Million* by David M. Schwartz
- Sentence Strips

Advance Preparation:

1. Handout: **If You Made a Million** concept map (individual copies)
2. Handout: **Place Value Prompt Activity** (individual copies of not using **If You Made a Million** book and concept map)
3. Handout: **Base Ten Block Model Cards** (cardstock, laminated if extra base ten materials are needed) **Paper Hundred Centimeter Grids**
4. Handout: **Understanding Place Value** (individual copies)
5. Handout: **Blank Place Value Chart** (individual copies as needed)
6. Handout: **Using the Place Value Chart** (individual copies) and **Digit Cards** (cardstock, laminated and placed in baggies)
7. Handout: **Stay on Target** (individual copies)
8. Handout: **Population Place Value** (individual copies)

Background Information:

In addition to concrete materials, such as base-ten blocks, students will use a place value chart and digit cards as tools to order and compare numbers to 999,999,999.

INSTRUCTIONAL PROCEDURES

ENGAGE

1. Distribute the **If You Made a Million** concept map to students. Read *If You Made a Million* to students. Students make notes on their concept map to guide their understanding of different dollar amounts.

Notes for Teacher

Suggested Day 1

MATERIALS

Literature: *If You Made a Million* by David M. Schwartz

Run the **Handout:**

If You Made a Million concept map

LITERATURE NOTE

INSTRUCTIONAL PROCEDURES

- Have students share their concept maps in their groups.

Ask:

- **What is an example of how to pay \$10,000 in the story?** *Sample Answer: pennies, 10 one-thousand dollar bills*
- **What are some examples of \$1,000,000 in the story?** *Sample Answer: stack of pennies ninety-five miles high*
- **How many sets of a 100,000 would equal one million?** *Sample Answer: 100*
- **Can you describe or draw a picture to show how you know?** *Answers will vary.*

EXPLORE

- Have students placed in groups of 4 with base ten blocks (at least 1 thousands cube per table) available at each table. Write the number 134,572 on the board or overhead. **Ask the students if they can make this number with base ten blocks? (Yes) Do they have enough blocks to make the number? (No).**
- Students are to use the base ten materials to build 134,572. They will soon discover that they will need all of the thousands blocks created in class.
- Since students now know they are going to need more thousands blocks to show this number,

Notes for Teacher

Other Books to consider are:
A Million Fish More or Less by Patricia McKissack
Millions of Cats by Wanda Gag

TEACHER NOTE

If literature is not available, use the **Place Value Prompt Activity** described in the attached materials.

TEKS NOTE

4th grade students are held accountable for whole number place value through the millions. It is important that students understand the magnitude of numbers in the millions.

Suggested Day 2

MATERIALS

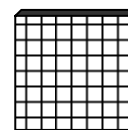
Base Ten Blocks

Run the **Handout**:

- (1) **Paper Base Ten materials**
- (2) **Paper Hundred Centimeter Grids**

VOCABULARY NOTE

Use the correct terminology to label the base ten blocks.



100-Flat



10-Long



Unit

TEACHER NOTE

Paper Hundred

INSTRUCTIONAL PROCEDURES

distribute **Paper Hundred Centimeter Grids** and have each student make 4 or 5 thousands blocks (enough to have 100 blocks total when the class is finished) following the directions provided on the **Paper Thousand Block Directions**, OR distribute the **Base Ten Block Model Cards** for students to use if time does not allow for building the paper cubes.

Ask:

- **How can you show the ones?** (*units*) **tens?** (*longs*) **hundreds?** (*flats*) **thousands?** (*cube*) **ten thousands?** (*ten cubes connected to look like a giant long*) **hundred thousands?** (*ten giant longs connected to look like a giant flat*)

4. Give each group some blank paper and ask them to sketch a picture of their model of 134,572. Have the groups include what they found out about making the number. Have students record an answer to the following question:

- **Based on what you have discovered about hundred thousands, how might you describe what one million would look like?** (*ten giant flats connected to look like a giant cube*)

EXPLAIN

1. The teacher writes a number in expanded form on a sentence strip and then folds the strip so that when it is folded (accordion style), only the first digit of each number can be seen. When each end of the strip is pulled-out, the students can see the number in expanded notation. Conversely, when the strip is

Notes for Teacher

Centimeter Grids can be taped together to make more thousands cubes are also provided if the number needed are not available in your classroom. It is highly recommended that the teacher spend the time having the students build the thousands cubes themselves. However, an alternative is to use the **Base Ten Block Model Cards** which consist of actual paper models that students can cut out and use in place of the manipulatives.

RESEARCH

John Van De Walle (2006) tells teachers that although students will not see concepts simply by seeing or by handling mathematical models: "...these various tools can help them learn important mathematical ideas.." (p.8).

Suggested Day 3

MATERIALS

Sentence Strips
Run the **Handout: Understanding Place Value**

INSTRUCTIONAL PROCEDURES

folded, the students see the standard form of the number.

Example:

2,000,000 +	600,000 +	40,000 +	3,000 +	500 +	70 +	8
-------------	-----------	----------	---------	-------	------	---

2,	6	4	3,	5	7	8
----	---	---	----	---	---	---

Distribute sentence strips to pairs of students. Have students create a number in the millions, thousands and units of their own. Student pairs read and listen to the standard and expanded form of the number they have created.

Ask:

- **How is it possible to write so many different numbers with just ten digits: 0-9?** *Sample answer: Digits can be combined in many ways using different place values.*
- **What does "expand" mean?** *Sample answer: stretch out, spread out.* **What are some things that can be expanded?** *Sample answer: rubber bands, balloons.*
- **So, what does expanded notation mean in our number system?** *Sample answer: A way to write numbers that shows the place value of each digit.*
- **What pattern do you see with the zeroes as you created your expanded number?** *Sample answer: The number of zeroes decreased by one for each place value; OR increased depending on which way the numbers are read.*
- **What is the purpose of the zeroes? Can you get rid of the zeroes in your number? Why or why not?** *Sample answer: Zeroes are place holder; No, because it would change the value of the number.*
- **How does expanded notation differ from standard form?** *Sample answer: Expanded notation shows the place value of each digit and standard form is a number written with one digit for each place value.*

Notes for Teacher

VOCABULARY NOTE

Within definitions of mathematics, there are many mathematical terms that compose some of our mathematical definitions.

- Use a **vocabulary word wall** with examples will help students understand the definitions. Allow students to use their own definitions first and then agree on a class definition making connections between the two.
- Some discussion may need to take place regarding the meaning of parts of the words such as **standard form** and **expanded notation**. Have students suggest synonyms for standard (normal, regular, usual) and for expanded (stretch out, spread out).
- Discuss relationships between pairs of words. Example: Numbers are made up of **digits**; a digit gets its **value** from its **place**; numbers in **expanded notation** shows the **place value** of each **digit** while a number in **standard form** shows one **digit** for each **place value**.

2. Distribute **Understanding Place Value** to each

TEACHER NOTE

INSTRUCTIONAL PROCEDURES

student to work on as guided practice.

3. Have students use the numbers on their charts to order them from least to greatest.

Ask:

- **What role does the comma play in naming a large number?** *Sample answer: It is used to separate groups of three digits and separates the periods.*
- **How can we determine which number is the greatest?** *Sample answer: By starting at the millions period and finding the value.*

4. Students are to turn their charts over or use the **Blank Place Value Chart** to write the largest number from the chart and then order the remaining numbers from greatest to least. Have class discuss the different methods they used to order the numbers.

Ask:

- **How many digits does the largest number have?** (9) **smallest?** (8)
- **How many 9-digit numbers are there?** (3) **How did you determine which one to write first?**
Sample answer: Looked at the value of the digits in the first place and selected the largest digit and ordered accordingly.

5. Distribute **Using the Place Value Chart** and **Digit Cards** to pairs of students and explain that they are to shuffle the cards and turn the cards over one at a time. As each card is turned, the students record the number in any box within the millions period. In other words, the students could place the digit in the one millions, ten millions, or hundred millions place for the first three cards drawn. They are to do the same for the thousands period and then the units period until all the cards have been used.

Ask:

- **What digit did you place in the hundred millions place? ten millions place? one millions place?** *Answers will vary*

6. Have students complete the questions on the **Using the Place Value Chart** independently.

Notes for Teacher

For struggling learners, you may want to use the **Blank Place Value Chart** to help students compare and order their numbers.

MATERIALS

Run the **Handout**:

- (1) **Using the Place Value Chart**
- (2) **Digit Cards**

TEACHER NOTE

Discuss when reading a number on a place value chart, read from left-to-right and every time a comma is encountered, the name of the period is used.

VOCABULARY NOTE

Some discussion may need to take place regarding the meaning of the word **period**. Students can brainstorm

INSTRUCTIONAL PROCEDURES

Notes for Teacher

what they already know about the word which should lead to the “mathematical” use of the word. **Period** is a three-digit grouping of a number on the place value chart.

TEACHER NOTE

Struggling students may need to name each number by period first and read or write the number attaching the period name..

ELABORATE

1. Distribute the **Stay on Target** sheet to each student. Students will work with a partner. Give each group a decahedra die (ten-sided die numbers 0-9). Explain that the students will take turns rolling the numbered die. When a student rolls the numbered die, the student writes the numeral on the target in a space. Students take turns rolling the cube until all of section "A" has been completed. The students fill in section "A" at the bottom of the sheet.

Ask:

- **How is the “target” chart like the place value chart?** *Sample answer: It has places – 1’s, 10’s etc.*
 - **How is it different?** *Sample answer: It doesn’t have the periods separated; it is round instead of horizontal.*
2. Have students complete sections B and C on the target just as they did for section A.

EVALUATE

1. Distribute the **Population Place Value** to each student.
2. Students complete the place value questions individually.
3. Remind students to explain their strategy using pictures and/or words for comparing and ordering the population data.

Suggested Day 4

MATERIALS

Decahedra Dice (see below)



Run the **Handout:**
Stay on Target

Suggested Day 5

Run the **Handout:**
Population Place Value

Understanding Place Value - KEY

Complete the chart to find the value of each number.

	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
1. Digit	7	7	7	7	7	7	7	7	7
Expanded Form	700,000,000 +	70,000,000 +	7,000,000 +	700,000 +	70,000 +	7,000 +	700 +	70 +	7
Word Form	seven hundred seventy-seven million, seven hundred seventy-seven thousand, seven hundred seventy-seven								
	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
2. Digit	6	0	4	5	1	1	0	1	3
Expanded Form	600,000,000 +		4,000,000 +	500,000 +	10,000 +	1,000 +		10 +	3
Word Form	six hundred four million, five hundred eleven thousand, thirteen								
	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
3. Digit		8	9	3	6	5	0	0	2
Expanded Form		80,000,000 +	9,000,000 +	300,000 +	60,000 +	5,000 +			2
Word Form	eighty-nine million, three hundred sixty-five thousand, two								
	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
4. Digit	5	8	1	0	2	3	6	0	7
Expanded Form	500,000,000 +	80,000,000 +	1,000,000 +		20,000 +	3,000 +	600 +		7
Word Form	five hundred eighty-one million, twenty-three thousand, six hundred seven								

Population Place Value - **Key**

This table shows the population of some of the largest states in the U.S. according to the estimated 2005 census.

State	Population
Texas	22,859,968
Michigan	10,120,860
California	36,132,147
Florida	17,789,864
Alabama	4,557,808
Ohio	11,464,042
New York	19,254,630
Illinois	12,763,371

Use the table below to write each state's population in expanded form and then in word form.

	Expanded Form	Word Form
Texas	$20,000,000 + 2,000,000 + 800,000 + 50,000 + 9,000 + 900 + 60 + 8$	<i>twenty-two million, eight hundred fifty-nine thousand, nine hundred sixty-eight</i>
Michigan	$10,000,000 + 100,000 + 20,000 + 800 + 60$	<i>ten million, one hundred twenty thousand, eight hundred sixty</i>
California	$30,000,000 + 6,000,000 + 100,000 + 30,000 + 2,000 + 100 + 40 + 7$	<i>thirty-six million, one hundred thirty-two thousand, one hundred forty-seven</i>
Florida	$10,000,000 + 7,000,000 + 700,000 + 80,000 + 9,000 + 800 + 60 + 4$	<i>seventeen million, seven hundred eighty-nine thousand, eight hundred sixty-four</i>
Alabama	$4,000,000 + 500,000 + 50,000 + 7,000 + 800 + 8$	<i>four million, five hundred fifty-seven thousand, eight hundred eight</i>
Ohio	$11,000,000 + 400,000 + 60,000 + 4,000 + 40 + 2$	<i>eleven million, four hundred sixty-four thousand, forty-two</i>
New York	$10,000,000 + 9,000,000 + 200,000 + 50,000 + 4,000 + 600 + 30$	<i>nineteen million, two hundred fifty-four thousand, six hundred thirty</i>
Illinois	$10,000,000 + 2,000,000 + 700,000 + 60,000 + 3,000 + 300 + 70 + 1$	<i>twelve million, seven hundred sixty-three thousand, three hundred seventy-one</i>

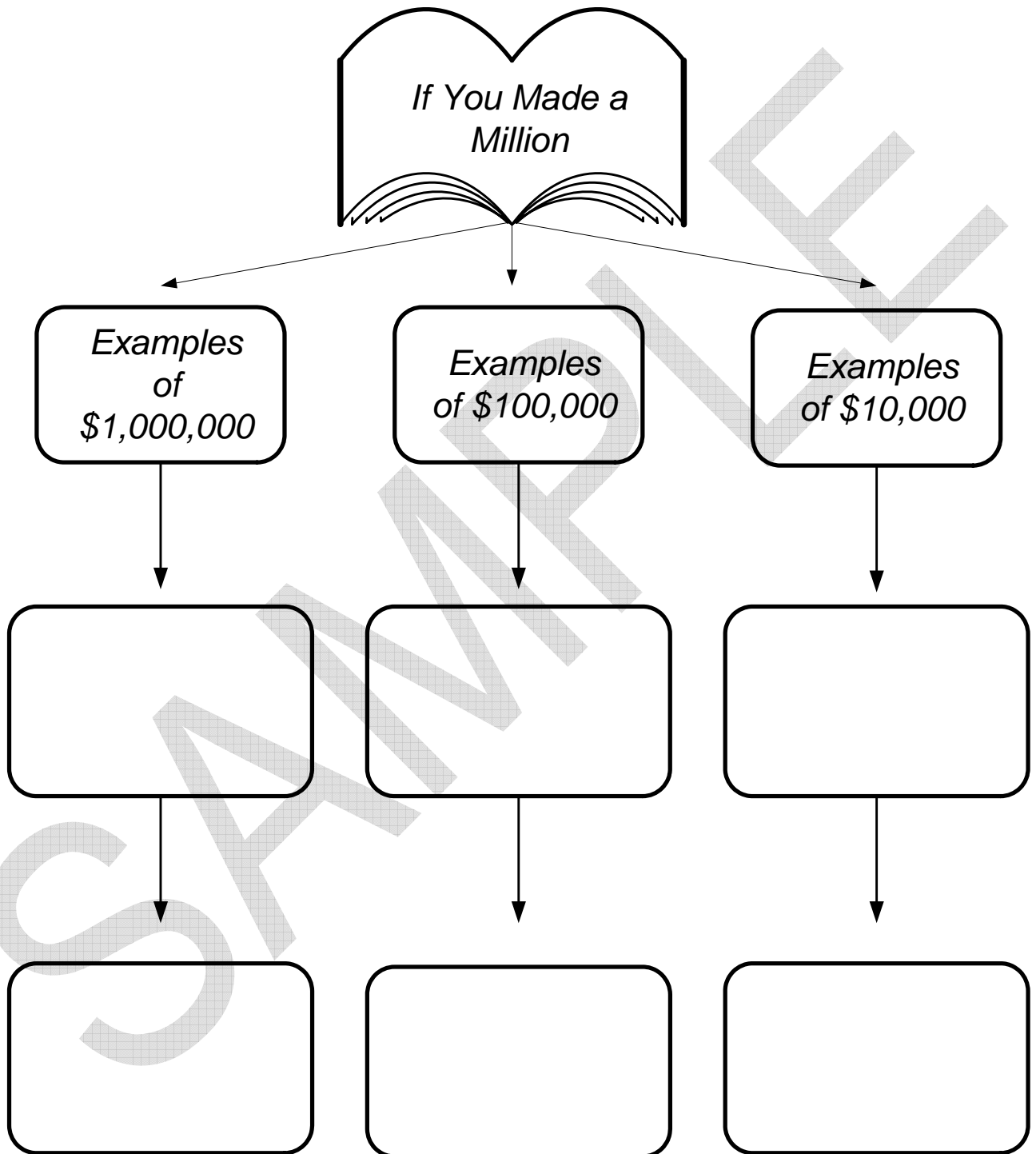
List these state's populations in order from least to greatest. Explain your process.

State	Population
Alabama	4,557,808
Michigan	10,120,860
Ohio	11,464,042
Illinois	12,763,371
Florida	17,789,864
New York	19,254,630
Texas	22,859,968
California	36,132,147

Process answers will vary but should include some strategy using place value.

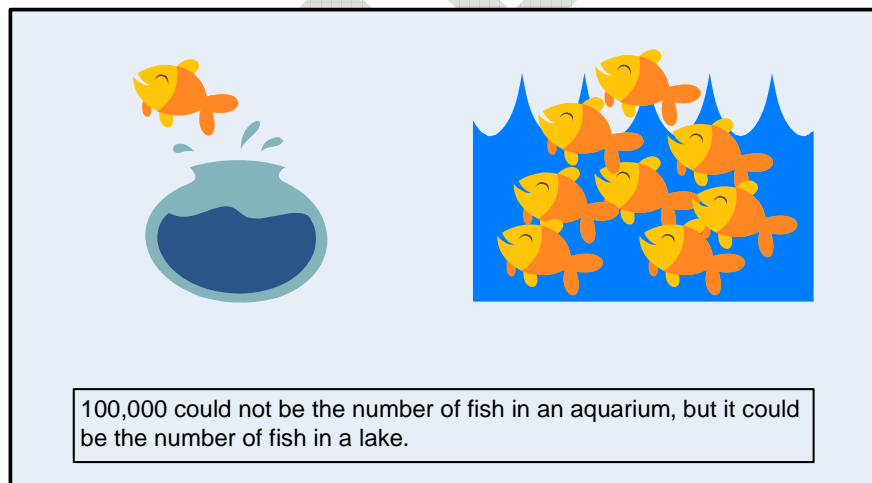
"If You Made A Million" – Concept Map

Use the empty boxes to write a description or draw a picture of the main ideas or important details in *If You Made a Million*.



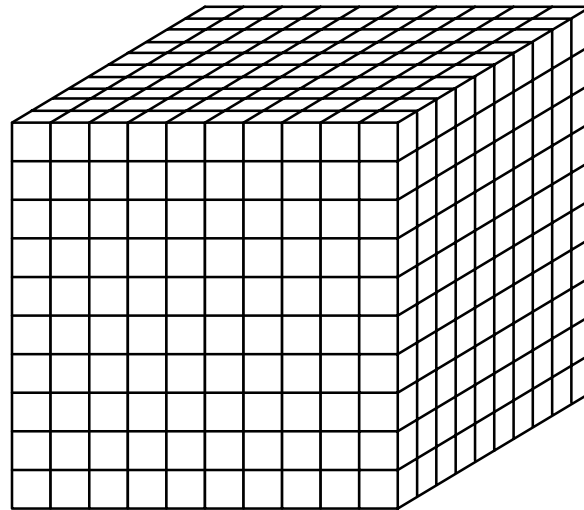
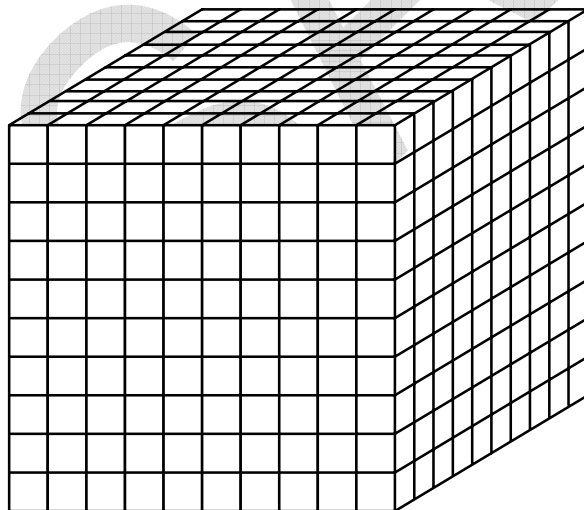
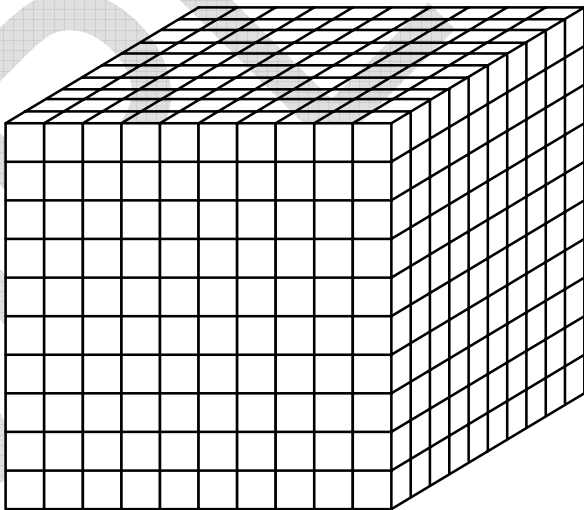
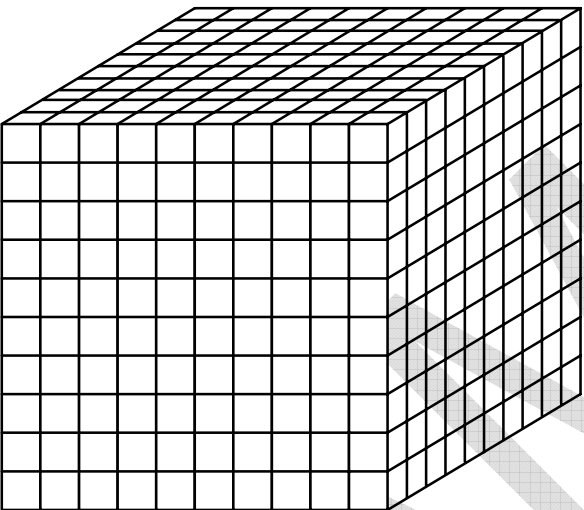
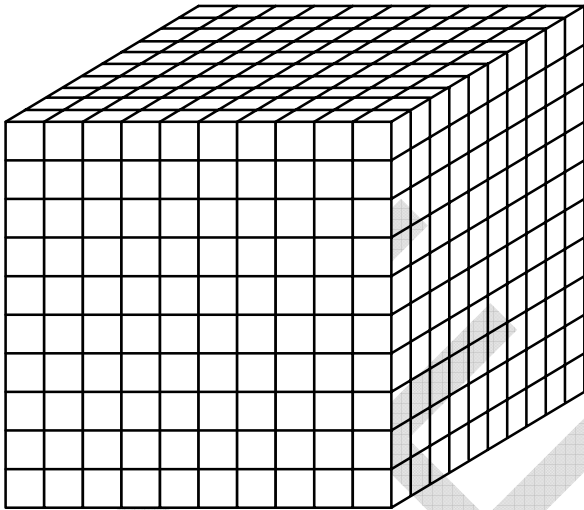
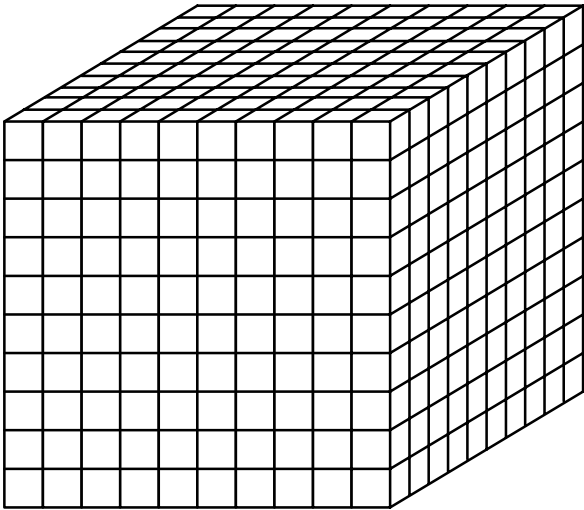
Place Value Prompt Activity – Teacher Notes

- Write the number 500,000 on the board or overhead and have the students make a list of things that could describe 500,000. *Sample example: 500,000 could be the number of hairs on a gorilla.* Students can do this in math journals individually, or scribe a group response.
- Discuss/list results as a class. Use a student example that might not be correct or ask students if a gorilla could weigh 500,000 lbs. *Sample Answer: No, but 500,000 lbs could be the weight of.....*). Leave this sentence unfinished and allow students to come up with their own completion.
- Write on the board or overhead: _____ could not be the number of _____, but it could be the number of _____. Have students suggest some large numbers (hundred thousands to billions) and list these on the board.
- Have students pick a number from the list and use it to begin the sentence written on the board/overhead. Students are to then complete the sentence and illustrate what they wrote. Example:

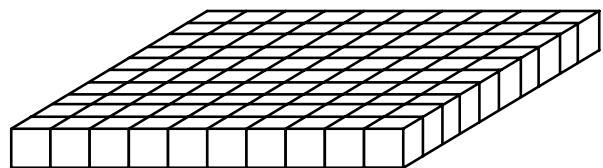
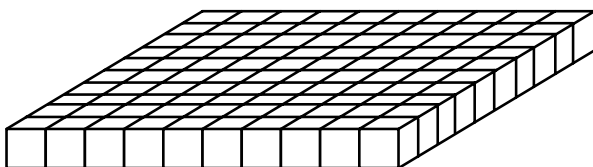
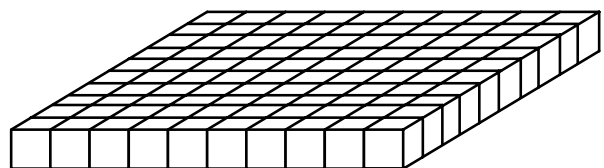
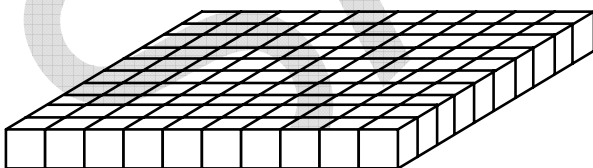
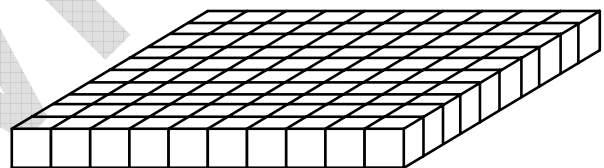
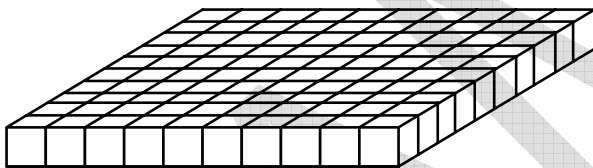
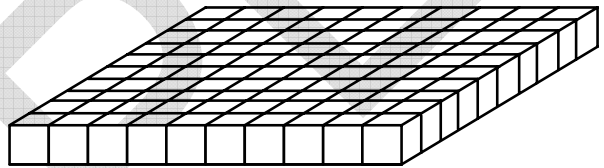
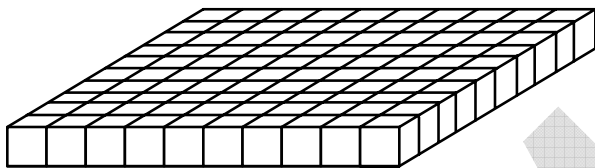
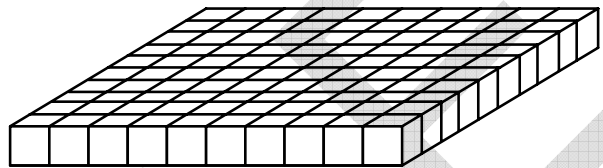
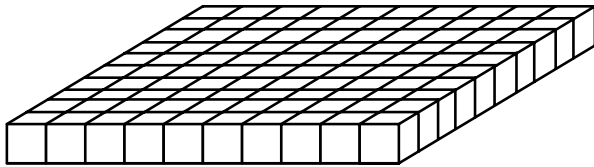
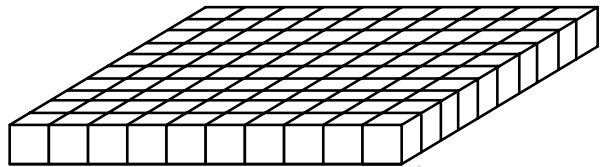
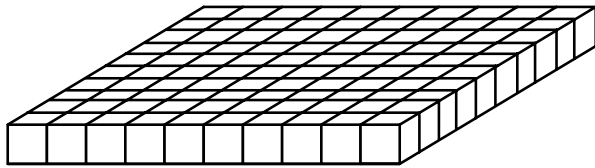


- Discuss results/drawing in groups and as a class. Some of what the students write may be called into question by others in the class. This is an opportunity for students to learn from one another about numbers.
- As the class discussion evolves, prompt students to explain their reasoning. Possible prompts should include: *Is it possible...? How do you know...? What if....? Talk with the people at your table and see what you come up with.*

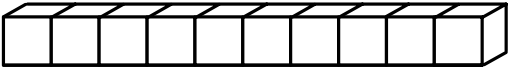
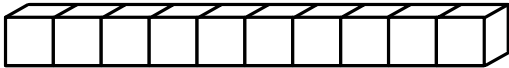
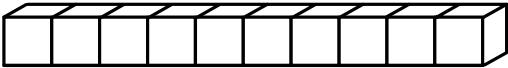
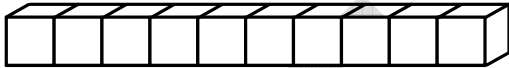
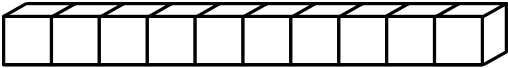
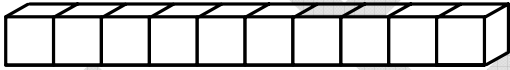
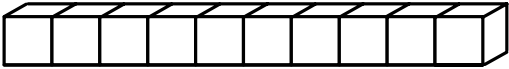


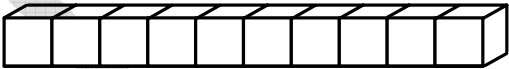





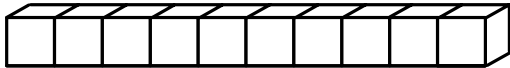

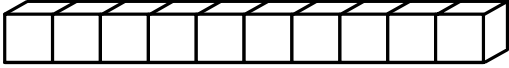
Base Ten Block Model Cards



Base Ten Block Model Cards



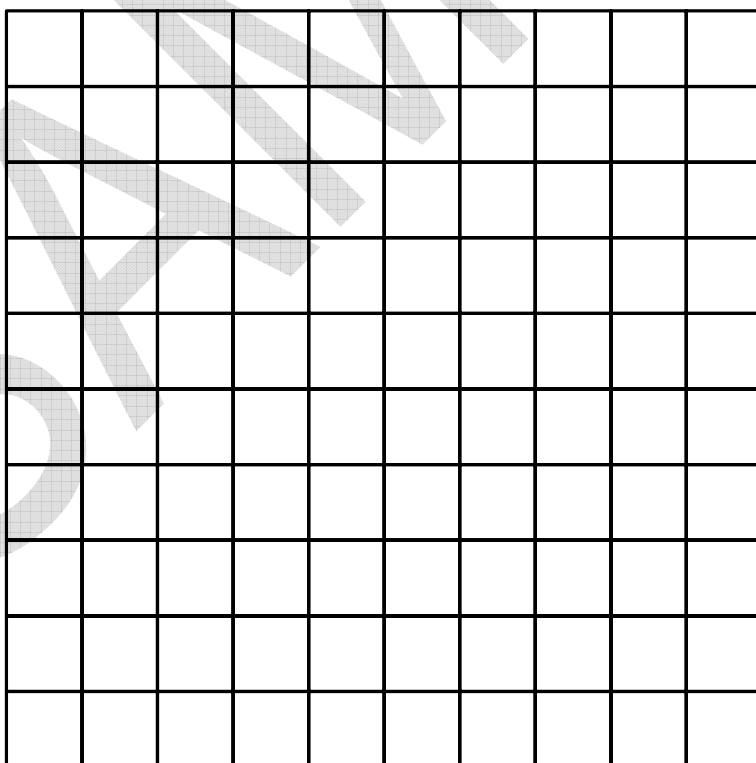
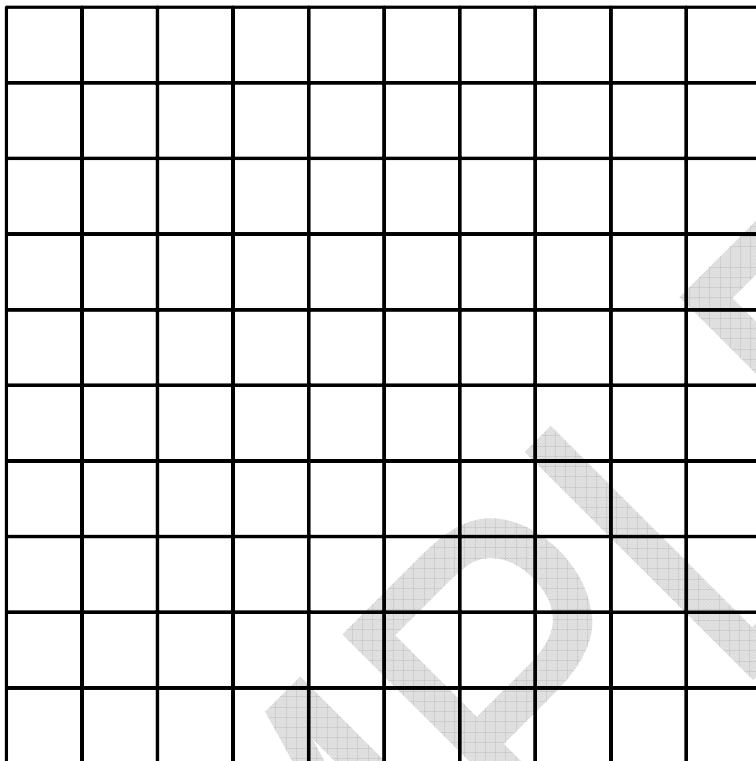
Base Ten Block Model Cards

Base Ten Block Model Cards

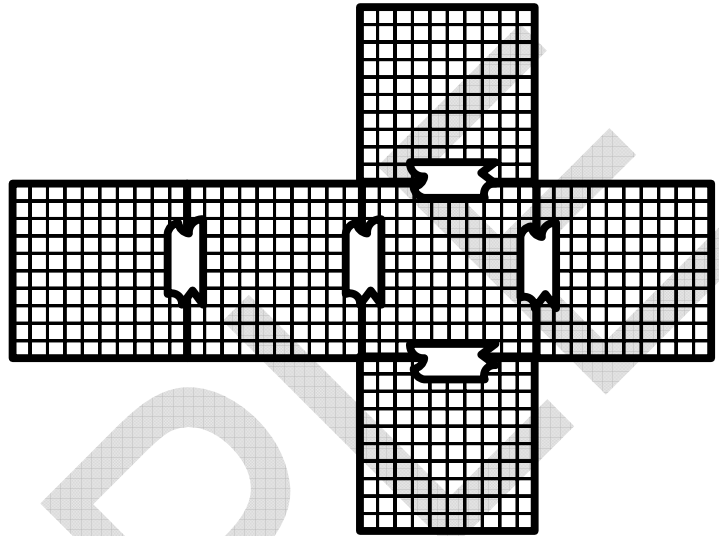


Handout: Paper Hundreds Centimeter Grids

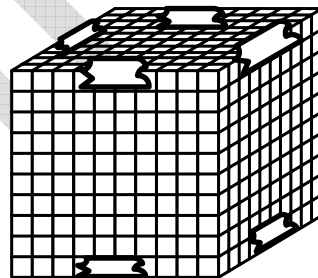


Follow these directions and the pictures to make a thousands-block out of paper.

- (1) Take six centimeter hundreds grids and place them on your desk. Tape them together as shown.



- (2) Fold up the grids to make a box shape. Be sure the grid lines are on the outside of the cube. Tape the entire box together



Handout: Understanding Place Value

Complete the chart to find the value of each number.

	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
1. Digit	7	7	7	7	7	7	7	7	7
Expanded Form									
Word Form									
	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
2. Digit	6	0	4	5	1	1	0	1	3
Expanded Form									
Word Form									
	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
3. Digit		8	9	3	6	5	0	0	2
Expanded Form									
Word Form									
	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
4. Digit	5	8	1	0	2	3	6	0	7
Expanded Form									
Word Form									

Handout: Blank Understanding Place Value

Complete the chart to find the value of each number.

	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
1. Digit									
Expanded Form									
Word Form									
	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
2. Digit									
Expanded Form									
Word Form									
	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
3. Digit									
Expanded Form									
Word Form									
	Millions			Thousands			Units		
	H	T	O	H	T	O	H	T	O
4. Digit									
Expanded Form									
Word Form									

Handout: Blank Place Value Chart

Millions			Thousands			Units		
H	T	O	H	T	O	H	T	O

Using the Place Value Chart

	MILLIONS			THOUSANDS			UNITS		
	<i>hundred millions</i>	<i>ten millions</i>	<i>millions</i>	<i>hundred thousands</i>	<i>ten thousands</i>	<i>thousands</i>	<i>hundreds</i>	<i>tens</i>	<i>ones</i>
1.									
2.									
3.									
4.									
5.									

Write each number you created above in words.

- 1.
- 2.
- 3.
- 4.
- 5.

Write each number you created above in expanded form.

- 1.
- 2.
- 3.
- 4.
- 5.

For the **first** number you created which digit is in the -

1. ones place? _____
2. hundreds place? _____
3. ten thousands place? _____
4. hundred thousands place? _____
5. millions place? _____

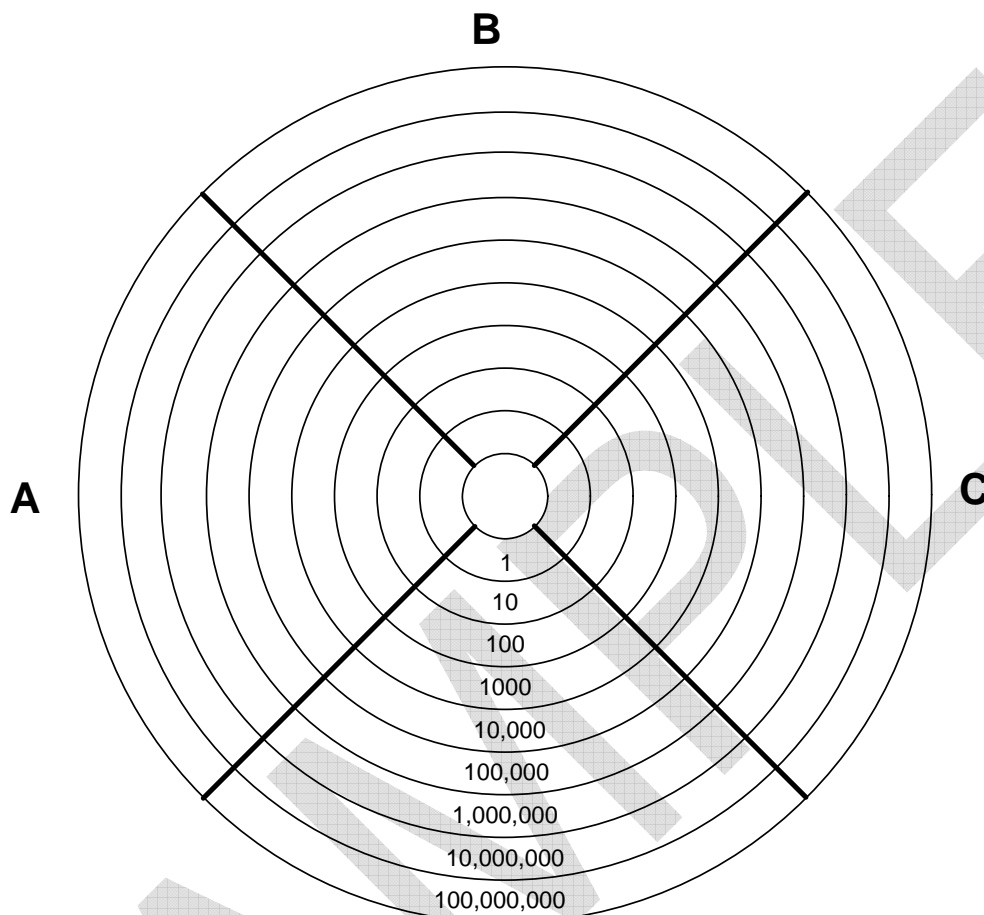
For the **second** number you created which digit is in the -

1. ones place? _____
2. hundreds place? _____
3. ten thousands place? _____
4. hundred thousands place? _____
5. millions place? _____

Order each number you created from least to greatest and explain your reasoning.

Stay on Target!

Roll the decahedra die. Write the number in a space in section A. Pass the die to your partner. Take turns rolling the die until all of section A has been completed. Then, answer the questions below for section A. Follow the same procedure the sections B and C.



Section A:

- (1) Write your number in standard form: _____
- (2) Write your number in expanded form: _____

- (3) Write your number in words: _____

- (4) Compare your number with your partners. Whose is greatest? How do you know?

Section B:

- (1) Write your number in standard form: _____
- (2) Write your number in expanded form: _____

- (3) Write your number in words: _____

- (4) Compare your number with your partners. Whose is greatest? How do you know?

Section C:

- (1) Write your number in standard form: _____
- (2) Write your number in expanded form: _____

- (3) Write your number in words: _____

- (4) Compare your number with your partners. Whose is greatest? How do you know?

Conclusion:

List and order all the numbers created by you and your partner in order from greatest to least. Explain your reasoning.

Digit Cards

0	1	2	3	4
5	6	7	8	9

Population Place Value

This table shows the population of some of the largest states in the U.S. according to the estimated 2005 census.

State	Population
Texas	22,859,968
Michigan	10,120,860
California	36,132,147
Florida	17,789,864
Alabama	4,557,808
Ohio	11,464,042
New York	19,254,630
Illinois	12,763,371

Use the table below to write each state's population in expanded form and then in word form.

	Expanded Form	Word Form
Texas		
Michigan		
California		
Florida		
Alabama		

Ohio		
New York		
Illinois		

List these state's populations in order from least to greatest. Explain your process.

State	Population